

THE RADIATION BELT STORM PROBE (RBSP) MISSION

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Scheduled to launch in May 2012, NASA's dual spacecraft Living With a Star Radiation Belt Storm Probe mission carries the field and particle instrumentation needed to determine the processes that produce enhancements in radiation belt ion and electron fluxes, the dominant mechanisms that cause the loss of relativistic electrons, and the manner by which the ring current and other geomagnetic phenomena affect radiation belt behavior. The two spacecraft will operate in low-inclination elliptical lapping orbits around the Earth, within and immediately exterior to the Van Allen radiation belts. During course of their two year primary mission, they will cover the full range of local times, measuring both AC and DC electric and magnetic fields to 10 kHz, as well as ions from 50 eV to 1 GeV and electrons with energies ranging from 50 eV to 10 MeV.